



F110

ARCHITECT AND
ENGINEER SPECIFICATIONS

RLE TECHNOLOGIES

1. GENERAL SPECIFICATION

- 1.1 The contractor shall provide a RLE Technologies Falcon F110 Monitoring System (hereinafter referred to as the “F110”) as described in subsequent sections of this specification to perform the functions of temperature and humidity monitoring, data collection, alarm reporting, and network communications.
- 1.2 The contractor shall supply the complete F110 system with components that shall include but not be limited to: a Falcon F110 Monitoring System, a 5VDC wall adapter, and up to 3 PnP digital Temperature or Temperature/Humidity sensors.
- 1.3 The F110 components listed above shall be manufactured by RLE Technologies, 104 Racquette Drive, Fort Collins, CO 80524, U.S.A. Tel (970) 484-6510, Fax (970) 484-6650, URL: www.rletech.com
- 1.4 The manufacturer shall warrant the F110 against defects in materials and workmanship for a period of twelve (12) months from the date of shipment. This warranty shall be limited to parts and labor to repair or replace the system if it is found to be defective. To ensure warranty coverage, all installation and other instructions must be followed properly. All installation and setup work must be performed by qualified personnel who are knowledgeable of the equipment and aware of appropriate safety, wiring, and other applicable practices.
- 1.5 The contractor shall submit copies of all applicable drawings, specifications, datasheets and user guides.
- 1.6 All materials and equipment used for this project shall be new and unused.

2. CODES/STANDARDS COMPLIANCE

- 2.1 The F110 shall have the following listings and approvals for international standards specifying general safety requirements for electrical equipment intended for professional, industrial process, and educational use:
 - 2.1.1 CE Certified; EMC – EN61326 Class A
 - 2.1.2 UL STD 61010A-1; EN STD 61010-1; CAN/CSA C22.2 STD NO. 61010-1
 - 2.1.3 CL2P/CMP per UL STD E162948 (Falcon Premium Water Leak Detection Cable)

3. SYSTEM DESCRIPTION

- 3.1 The Falcon Monitoring System shall consist of the F110 basic unit. The F110 shall monitor temperature and humidity at up to 3 different locations, and dry contact outputs from devices such as temperature sensors, humidity sensors, gas detectors, smoke detectors, fire suppression systems, surveillance products (IP cameras), leak detection systems, power monitoring systems, uninterruptible power supplies (UPSs), power distribution units (PDUs), generators, DC power plants, commercial power, HVAC units, ATS, and TVSSs.
- 3.2 The F110 shall analyze the outputs from these devices according to user instructions and take actions based on the outputs. Actions shall include: SNMP traps; email, pager or cellphone notification via SMTP/SMS; and webpages.
- 3.3 The F110 shall integrate with other RLE monitoring and control systems, such as the Falcon F3400, F1000 and FMS, and the Raptor RIS-2 and RIS-6, as a part of an enterprise’s network management system (NMS) or building management system (BMS).

4. COMPONENT DESCRIPTION

- 4.1 The F110 shall be a stand alone system, running its own firmware and proprietary operating system.

- 4.2 The F110 shall be constructed as a stand alone unit suitable for rack mounting with optional rack mounting brackets.
- 4.3 The overall size of the F110 shall be 4.568"W x 1.25"H x 2.25"D (115.8mmW x 31.75mmH x 57.15mmD).
- 4.4 The F110 shall operate on 5VDC @800mA max. The F110 shall include a barrel-type connector for a 5VDC wall adapter.
- 4.5 The F110 shall be suitable for operating at ambient temperatures between -40°F and 185°F (-40°C and 85°C), relative humidity between 5% and 85%, non-condensing, and a maximum altitude of 15,000 feet (4,572m). The F110 Controller shall be suitable for storage at temperatures between -40°F and 185°F (-40°C and 85°C).
- 4.6 The F110 shall have the following front panel indicators:
 - A.) One Power/Status LED that illuminates green when the power is on.
 - B.) Two Network Communications LEDs, built into the RJ45 connector:
 - Link – illuminates green if network link is established.
 - Active – illuminates green when data is being transmitted or received by the F110.
- 4.7 The F110 shall include 3 PnP External Environment Sensor inputs, suitable for connecting temperature or temperature/humidity sensors with RJ11 connectors.
- 4.8 The F110 shall include 8 digital dry contact inputs.
- 4.9 The maximum cable length for the digital dry contact inputs shall be 100ft (30.48m).
- 4.10 The F110 shall be capable of integration into larger systems, such as network management systems (NMS) or building management systems (BMS) via Modbus or SNMP protocols.
- 4.11 The F110 shall be capable of 10/100BaseT Ethernet communications via an RJ45 Ethernet connector. The F110 shall support the following protocols over the Ethernet connection: Modbus/TCP (Slave only); SNMP V1 (Get/Set/Trap); SNMP V2c (Trap/Inform); TCP/IP (supporting static IP address and DHCP); UDP/IP; IPv4; SMTP; HTTP/HTML.
- 4.12 The F110 shall use a real-time clock for time and date stamping of trend and event log entries. The date and time shall be set through the F110 HTTP/HTML interface. If the F110 is connected to a network, the date and time shall be continuously maintained by connection to a Network Time Protocol (NTP) server.
- 4.13 The F110 shall be accessible and configurable from a standard Web browser on a PC connected to the F110 through Ethernet. The HTML-based webpages shall display the F110 device, input and alarm status and trends, and a link to the configuration menus. Configuration menus shall be password protected.

5. SYSTEM COMMISSIONING AND MAINTENANCE

- 5.1 Upon completion of the system installation, the installer shall perform the following tests in the presence of the owner and shall provide the owner with a copy of the results:
 - 5.1.1 System Turn-On
 - A.) The Ethernet cable shall be plugged into the RJ45 connector before the wall adapter is connected. After the wall adapter is connected, the Power/Status LED shall illuminate solid green.
 - 5.1.2 Communications
 - A.) After following the instructions in the User Guide for setting up the device address and opening a connection, the F110 shall respond by displaying its own web server interface.
- 5.2 The RLE Technologies F110 shall be maintained as recommended in the F110 User Guide.



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